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SHOWER TUB FOR DISABLED PERSONS

The invention relates to a shower tub for disabled persons who depend on a wheelchair for locomotion. The shower tub is equipped with a rectangular base surface which covers the shower tub and which is provided with a drainage opening, with the shower tub being mounted to a supporting frame.

Bath tubs, whose rim is approximately 58 cm high and which are configured as molded bodies having a deep trough, were previously made. The person taking a bath can, in the sitting position, rest the upper arms on the rim. Bath tubs having a shallow base trough have previously been made. However, the purpose of such tubs is to be built into the tiled floor in bathrooms. In no case is it possible for disabled persons to transfer without assistance from their wheelchair into this type of tub.

It is therefore the object of the invention to provide a shower tub of the

aforementioned type such that disabled persons, who are dependent on a wheel chair for locomotion, can easily transfer without any assistance from the wheel chair to a bath tub. The solution of the problem under consideration is found in that the bath tub comprises a molded body having a flat rim surrounding the tub, and a shallow base trough, which is sloped toward the drainage opening, and in that the supporting frame is at a level such that the surrounding rim is at least approximately at the same level as the seating surface of the wheelchair.

The configuration of a shower tub in according to the invention allows the afore-described disabled person to transfer without any assistance directly from the wheel chair to the bathtub. This type of shower tub can be equipped in a conventional manner as free-standing and transportable bathroom unit.

The manufacturing process of this type of molded body is based on the simplest method and employs a deep-drawing method using acrylic glass. The trough, in this case, must be so shallow that the disabled person can slide his body from the tub onto the wheelchair without significant difficulties.

An arrangement meeting these requirements in accordance with the invention is best characterized in that the supporting frame is provided with an upper circumferential supporting frame for the flat rim of the bath tub and a lower bottom frame, and that the two are connected to one another by corner

posts and at least one center post on each longitudinal side of the frame.

In order to gain sufficient access, the wheel chair, which is frequently provided near the bottom with projections that extend beyond the seat, the arrangement according to the invention may be advantageously modified in that, on the access side, the longitudinal side of the base frame is recessed with respect to the longitudinal side of the supporting frame, and the corner and center posts on the access side are sloped inwardly at the bottom.

This also enables the caretaker to place the tips of his/her toes in the recess of the longitudinal access side of the arrangement, and he/she can therefore step closely enough to the edge of the tub to facilitate his efforts in aiding the patient in his care.

The strength of a tub made of acrylic glass may be improved through an advantageous modification of the invention in that the two center posts which are transverse to the bath tub, are connected to one another by means of a transverse bar, and in that the base trough of the bath tub contacts the transverse bar.

The configuration of the arrangement according to the invention as a bathroom unit is preferably due to the supporting frame and/or the bath tub on the longitudinal side opposite the access side being connected to a fixture wall

which comprises a mixing faucet, a manual shower, an over-head shower and a distribution device which is connected to the output of the mixing faucet. The shower devices which are built into the fixture wall, are affixed and configured in such a way that the disabled person can shower without outside help.

If the shower tub arrangement in accordance with the invention is not intended for permanent installation in a building, the embodiment according to Claim 7 and/or Claim 8 of the invention may be provided as an alternative, with the components also being portable.

The best solution, however, is the rigid connection of all the aforementioned components in accordance with Claim 9 in a building, because in this case, the sealing, the connection, and temperature control are necessarily part of the solution.

An embodiment of the invention is elucidated below with reference to the drawings in which:

Fig. 1 is a perspective view of a bathroom unit equipped in accordance with the invention;

Fig. 2 to Fig. 4 are a top view, a side view, and an underneath view of a bathtub mounted on a supporting frame in accordance with the invention.

The bathroom unit in Fig. 1 comprises an fixture wall 1, a head wall 2

and a foot wall 3. These walls enclose the bath tub, which is not visible in Fig. 1, on three sides. The access side is sealed off from the outside by means of a so-called shower separating wall 4 by pulling the folding or pivoting portion 5 in a conventional manner against the vertical strip 6 of the guide frame 7 on the head wall 2.

The bathtub which is not visible in Fig. 1, is mounted on a supporting frame, which is not shown, and which is covered on the access side by means of a curtain wall 8. The fixture wall contains a wall outlet 9 including a shower hose 10, which is coupled to the same, a manual shower head 11, and an overhead showerhead, which is rigidly affixed. The fixture wall 1 is further provided with a mixing faucet 13, which allows the temperature of the incoming cold and warm water to be suitably controlled. The purpose of the valves 14 and 15 is to allow the manual shower head 11 and the overhead shower 12 to control the temperature of the water by means of the mixing faucet 13.

The bathtub 16 shown in Fig. 2 has a head end 17 and foot end 18, including the drainage opening which is known per se. The trough 20, which is built into the bathtub, is sloped toward the foot end 18. Reinforcing grooves 21 are provided on the bottom of the trough to reinforce the same. The body

of the bath tub is preferably molded from an acrylic glass which may be tinted as desired. The warm acrylic glass may be formed into the desired shape by means of a master mold.

The finished mold of the tub may be mounted on a supporting frame 22 in accordance with Figs. 3 and 4, either in a portable bathroom unit or one which is rigidly installed in a building. The supporting frame may be welded together, for example, from individual hollow steel profiles. This frame is provided with a supporting frame 23 on which the flat rim ²⁴ of the base trough 16 rests. The lower, circumferential base frame 25 of the supporting frame 22 is narrower than the supporting frame 23 in order to allow the access side of the shower tub installations to be recessed near the base. The supporting frame 23 and the base frame 25 are connected to one another by means of corner posts 26 and 27 and center posts 28 and 29. In this case, the corner posts 27 and the center posts 29 are positioned obliquely in accordance with the recess. A transverse bar 30 is arranged between center posts 28 and 29 as support for the trough 20 of the tub 16.

To gain access, the disabled person approaches the recessed curtain wall 8 on the access side sideways by means of the wheel chair. He/she supports him/herself on the arm rests of the wheel chair and pivots the seat portion onto

the rim of the bathtub. The person may move as desired in the longitudinal or transverse direction on the bathtub. The head portion of the trough 20, which is kept somewhat lower, prevents constant sliding toward the deeper portion of the trough near the drainage opening 19.

The door handle, the valves 14 and 15, and the mixing faucet 13 are within the reach of the disabled person sitting on the tub. After showering and drying - towel hooks may be affixed to the narrow outside of the head wall 2 - the person may again lower him/herself onto the foot plates by supporting him/herself with the arms and sliding past the upturned arm rests onto the seat of the wheel chair.

The invention is not limited to the afore-described example. The distribution of the shower water, the arrangement of the fixtures in the fixture wall 1, and the shower separating wall 4 are especially susceptible to variations. It is understood that the tub 16 and the supporting frame 22 may be made of a different materials. The tiles on the wet side of the walls 1, 2, 3, and 8 may be replaced by other suitable coating materials.

Claims

1. Shower tub arrangement for disabled persons who are dependent on

a wheelchair for locomotion, said arrangement being equipped with a rectangular base surface which covers the shower tub, and which is provided with a drainage opening, with the shower tub being mounted to a supporting frame, characterized in that bath tub (16) comprises a molded body having a flat rim (24) surrounding the tub, and a shallow base trough (20), which is inclined toward the drainage opening (19), and in that the supporting frame (22) is at a level such that the surrounding rim (24) is at least approximately at the same level as the seating surface of the wheelchair.

2. Arrangement as defined in Claim 1, characterized in that the molded body (16) is made of an acrylic glass by means of the deep-drawing method.

3. Arrangement as defined in Claim 1 or 2, characterized in that the supporting frame (22) is provided with an upper circumferential supporting frame (23) for the flat rim (24) of the bath tub (16) and a lower bottom frame (25), and that the two are connected to one another by corner posts (26, 27) and at least one center post (28, 29) on each longitudinal side of the frame (23 and 25).

4. Arrangement as defined in Claim 3, characterized in that on the access side the longitudinal side of the base frame (25) is recessed with respect to the longitudinal side of the supporting frame (23), and the corner and center posts (27 and 29) on the access side are sloped inwardly at the bottom.

5. Arrangement as defined in Claim 3 or 4, characterized in that the two center posts (28, 29) which are transverse to the bath tub (16), are connected to one another by means of a transverse bar (30), and in that the base trough (20) of the bath tub (16) rests on the transverse bar (30).

6. Arrangement as defined in one of the preceding claims, characterized in that the supporting frame (22) and/or the bath tub (16) on the longitudinal side opposite the access side being connected to an fixture wall (1) which comprises a mixing faucet (13), a manual shower (10, 11), an over-head shower (12) and a distribution device.

7. Arrangement as defined in Claim 6, characterized in that the supporting frame (22) and/or the bath tub (16) at the head and foot ends (17, 18) of the same are provided with stationary splatter proof walls (2,3) and are

provided on the access side with a shower separating wall (4) having a foldable or collapsible access door (5).

8. Arrangement as defined in Claims 3 to 7, characterized in that the access side of the supporting frame (22) is provided with a water-repellent curtain wall (8) which is preferably covered with tiles.

9. Arrangement as defined in Claims 1 to 8, characterized in that the supporting frame (22), the bath tub (16), the fixture wall (1), the head and foot walls (2, 3), the curtain wall (8), and the shower separating wall (4) are rigidly connected to a part of a building.

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